

WHAT IS CLAIMED IS:

- 1        1.     A cannula, comprising:
  - 2                a body having a proximal end and a distal end, the body
  - 3                having a wall defining a lumen extending from the proximal end to the
  - 4                distal end, the lumen having a longitudinal axis; and
  - 5                a plurality of apertures in the wall interconnected with the
  - 6                lumen, wherein each of the apertures has a longer major axis and a
  - 7                shorter minor axis, and wherein the longer major axis is perpendicular to
  - 8                the longitudinal axis of the lumen.
- 1        2.     The cannula of claim 1, wherein the cannula is a venous
- 2        cannula.
- 1        3.     The cannula of claim 1, wherein the apertures are eye-
- 2        shaped.
- 1        4.     The cannula of claim 1, wherein the apertures are oval.
- 1        5.     The cannula of claim 1, wherein the apertures are a shape
- 2        defined by first and second arcuate portions that intersect with one
- 3        another at two corners.
- 1        6.     The cannula of claim 1, wherein the apertures are arranged
- 2        into a plurality of rows generally extending along the longitudinal axis of
- 3        the lumen.
- 1        7.     The cannula of claim 6, wherein the rows are evenly
- 2        distributed on the body and the apertures of adjacent rows are offset
- 3        such that the apertures in the adjacent rows are different distances from
- 4        a distal tip of the body.

1           8.    A cannula, comprising:  
2                   a body having a proximal end and a distal end, the body  
3                   having a wall defining a lumen extending from the proximal end to the  
4                   distal end, the lumen having a longitudinal axis; and  
5                   a plurality of apertures in the wall, wherein the apertures are  
6                   eye-shaped.

1           9.    The cannula of claim 8, wherein the cannula is a venous  
2           cannula.

1           10.   The cannula of claim 8, wherein each of the apertures has a  
2           longer major axis and a shorter minor axis, and wherein the longer major  
3           axis is perpendicular to the longitudinal axis of the lumen.

1           11.   The cannula of claim 10, wherein the apertures are a shape  
2           defined by first and second arcuate portions that intersect with one  
3           another at two corners.

1           12.   The cannula of claim 8, wherein the apertures are arranged  
2           into four rows generally extending along the longitudinal axis of the  
3           lumen.

1           13.   The cannula of claim 12, wherein the rows are evenly  
2           distributed on the body and the apertures of adjacent rows are offset  
3           such that the apertures in the adjacent rows are different distances from  
4           a distal tip of the body.

1           14.   A method of making a cannula, comprising the steps of:  
2                   forming a cannula body having a wall defining a lumen;  
3                   bending the cannula body in a first direction such that the  
4                   cannula body has a concave side and a convex side;

5                   punching an oval aperture into the concave side of the body;  
6    and  
7                   straightening the cannula body.

1               15. The method of claim 14, wherein the wall is formed by  
2    extruding a plastic material.

1               16. The method of claim 15, wherein the plastic material is  
2    polyurethane.

1               17. The method of claim 14, wherein the body is formed by a dip  
2    molding process.

1               18. The method of claim 14, wherein the cannula is a venous  
2    cannula.

1               19. The method of claim 14, wherein the oval aperture has a  
2    longer major axis and a shorter minor axis, and wherein the longer major  
3    axis is perpendicular to a longitudinal axis of the lumen.

1               20. The method of claim 14, further comprising the step of  
2    punching a first row of oval apertures extending along the lumen into the  
3    concave side of the body before straightening the cannula body.

1               21. The method of claim 20, further comprising:  
2                   bending the cannula body in a second direction such that a  
3    different portion of the wall forms the concave side of the body; and  
4                   punching a second row of oval apertures extending along the  
5    lumen in the concave side of the body.

1               22. The method of claim 21, wherein the first and second rows  
2    are offset such that each aperture is a different distance from a distal tip  
3    of the body.